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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/669,604

09/25/2003

Kenichi Morinaga

010482.52788US

1421

23911

7590

01/14/2005

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EXAMINER

SEVER, ANDREW T

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 01/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/669,604	Applicant(s) MORINAGA, KENICHI	
	Examiner Andrew T Sever	Art Unit 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 6-9 and 15-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 10-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/11/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Species I (claims 1-5 and 10-14) in the reply filed on 11/3/2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. Claims 6-9 and 15-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 11/03/2004.

Claims 6-9 and 15-17 are dependent on claims 1 and 10 which are generic, but have been rejected below and claims 6-9 and 15-17 are therefore withdrawn since they read on either species II or species III which were not elected by applicant.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 99a-d in figure 11. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any

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required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The specification calls for 99e-h on page 2

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 41a (figure 5). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The specification explains a part 40b on page 11 which might be 41b.

Specification

5. The abstract of the disclosure is objected to because it is too long. Correction is required.
See MPEP § 608.01(b).

6. The disclosure is objected to because of the following informalities: numerous errors.
Appropriate correction is required.

It appears that the specification is an imperfect translation and contains numerous errors some of which will be noted below:

On page 2 the specification calls for a “liquid crystal light bulb”. This is a common translation error, the proper term is a “liquid crystal light valve”. Light bulbs are devices that emit light such as the common incandescent light bulb found in a floor lamp. Liquid crystal displays are in general passive; not emitting light.

On page 7, at the start of the last paragraph the first sentence states: “The image projection engine 5 is not explained.” Then the paragraph goes on to explain said engine. It appears that “not” should rather be “now”.

Applicant is required to thoroughly review the specification and correct any other errors that applicant may be/become aware of.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-3 and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Levis et al. (US 5,902,033.)

Levis teaches in figure 1 an image-displaying projector for producing and projecting an optical image comprising:

A lamp (10) for emitting a light for image projection;

A light tunnel (15) having a tubular portion and two openings provided at both ends, which receives the light from the lamp at one end opening of the tubular portion, and guides the light as it reflects on an inner side of the tubular portion, and releases it from the other end opening of the tubular portion; and

An imaging device (21) for producing an optical image by means of the light released from the light tunnel (15), wherein

The light tunnel (15) is made of a thin metal sheet folded to shape the tubular portion which has two openings provided at both ends (see column 4 lines 64 through column 5 lines 30 also see column 9 line 67 through column 10 lines 11 which teaches each section of the light pipe (it is made of two sections a front and center/back section) is made of a single piece of sheet metal/casing would inherently require that the tunnel is

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made of a metal sheet folded to shape the tubular portion as described in column 9 lines 67 through column 10 lines 11.)

With regards to applicant's claim 2:

The metal is described in column 10 lines 2 to be 1-5mm thick, which can be considered to be thin.

With regards to applicant's claim 3:

The inner side is coated with a cold mirror coating, which is a surface that absorbs infrared radiation and reflects visible radiation.

With regards to applicant's claims 10-12:

See above.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 4, 5, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levis as applied to claim 1-3 and 10-12 above, and further in view of Lee (US 6,773,118.)

As described in more detail above Levis teaches an image-displaying projector, which among other things includes a light tunnel, made of a thin metal sheet. Levis teaches in column 2 lines 13-21 that mounting a prior art solid light tunnel made of glass requires special expensive and delicate mounting which Levis's novel light tunnel is implied does not require, however Levis does not teach what form the mounting for Levis's novel light tunnel takes. Lee teaches in figure 3a a mounting structure (brackets 26 and 27) for a hollow light tunnel (232). As taught in column 4 lines 40-64, Lee's light tunnel is made of glass and the brackets are made of metal and attached via adhesive and are therefore not integral, however Lee's tunnel is hollow like Levis's. Lee teaches in column 2 lines 63-65 that this mounting system of Lee allows for better positioning and adjusting of the light tunnel as well as better heat dissipation (due to the brackets being made of metal) and accordingly since it is desirable to be able to adjust the alignment of the light tunnel as well as dissipate the heat generated in it, it would have been obvious to one of ordinary

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skill in the art at the time the invention was made to use the mounting system of Lee in the image displaying projector of Levis. Further since Lee's bracket is made of metal to dissipate heat and Levis's light tunnel is made of metal partially for the same purpose, it would be obvious to one of ordinary skill in the art to make them integral so that they can conduct heat even more efficiently away from the sensitive cold mirror coating. (See In re Larson 340 F.2d 965, 968, 144 USPQ 347,349)

With regards to applicant's claims 5 and 14:

See column 4 lines 20-34 of Lee which teach that the light pipe is attached to image projection engine body via screws and screw holes.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Kakuta et al. (US 6,364,493) teaches a mounting structure for a light tunnel in figure 3.

Chang et al. (US 2003/0098956) teaches in figure 2b a mounting structure for a light tunnel.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T Sever whose telephone number is 571-272-2128. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AS



JUDY NGUYEN
SUPERVISORY PATENT EXAMINER